

Figure 2

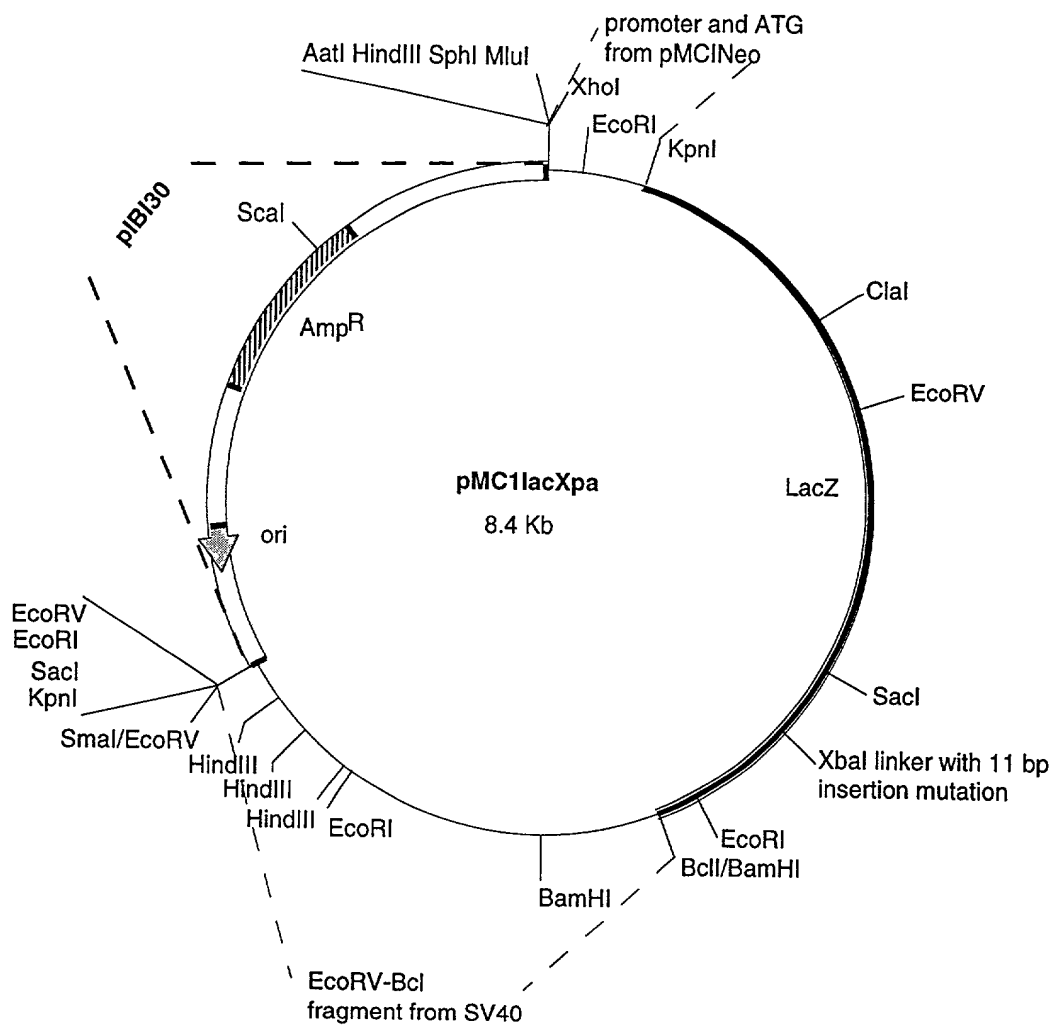


FIGURE 3

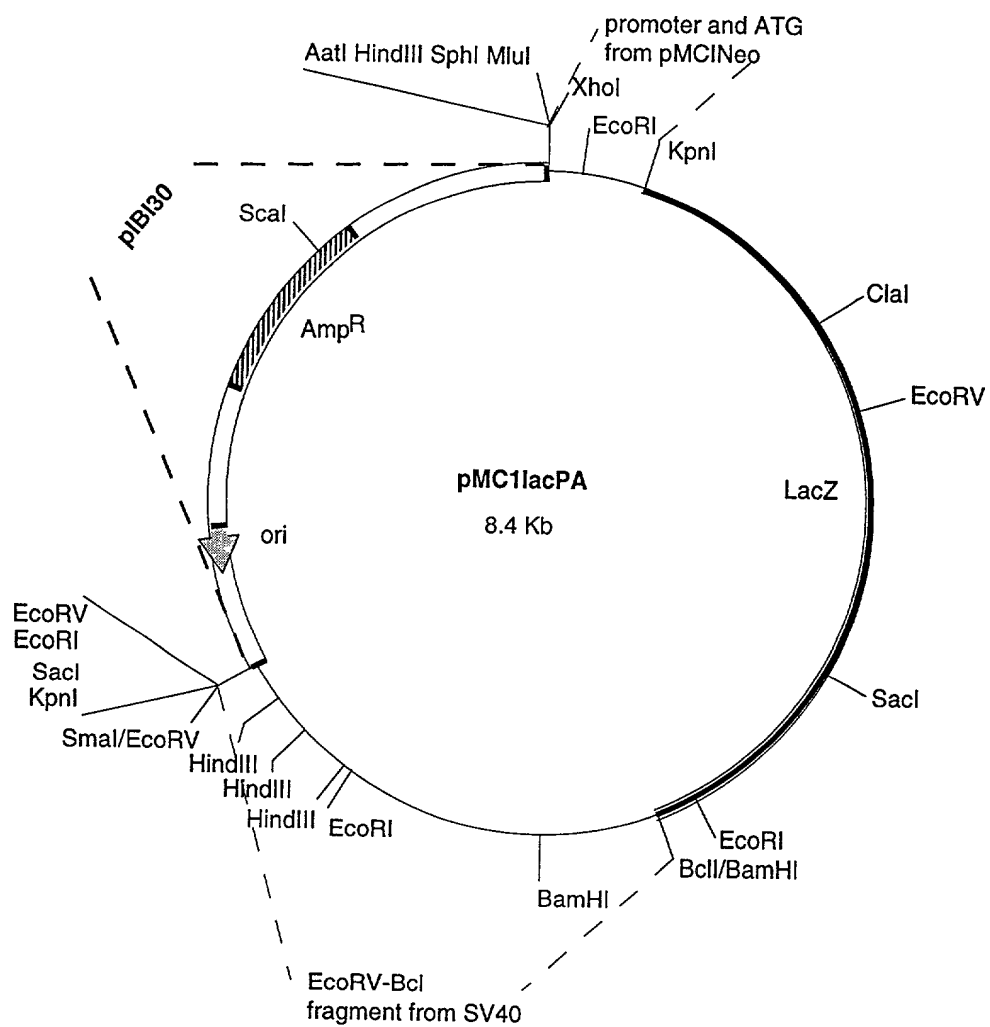


FIGURE 4

Figure 5

3610 3620 3630 3640 3650 3660  
ATAAAAAACAACCTGCTGACGCCGCTGCGCGATCAGTTCACCCGTGCACCGCTGGATAACG

3670 3680 3690 3700 3710 3720  
ACATTGGCGTAAGTGAAGCGACCCGCATTGACCCTAACGCCTGGGTCTGAACGCTGGAAGG

PCR  $\alpha$

3730 3740 3750 3760 3770 3780  
CGGCGGGCCATTACCAGGCCGAAGCAGCGTTGTTGCAGTGCACGGCAGATACACTTGCTG

CTCTAGACGCG Xba Linker with  
11bp insertion

3790 3800 3810 3820 3830 3840  
ATGCGGTGCTGATTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAACCTTATTTATCA

3850 3860 3870 3880 3890 3900  
GCCGGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGTTGAAG

PCR  $\beta$

3910 3920 3930 3940 3950 3960  
TGGCGAGCGATACACCGCATCCGGCGCGGATTGGCCTGAACTGCCAGCTGGCGCAGGTAG

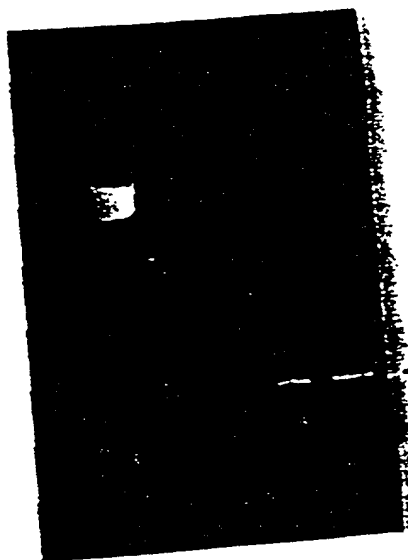
3970 3980 3990 4000 4010 4020  
CAGAGCGGGTAAACTGGCTCGGATTAGGGCCGCAAGAAAACCTATCCCGACCGCCTTACTG

**TEST FOR ALTERATION OF AN INSERTION MUTATION IN THE *lacZ*  
( $\beta$ -GALACTOSIDASE) GENE OF EUKARYOTIC EXPRESSION VECTOR**

<b>Experimental Sample</b>	<b>Injected Plasmid, 276-mer DNA and RecA Protein</b>		<b>Number of Injected Surviving Cells</b>	<b>Number of Surviving Cells Scoring Blue</b>	<b>Surviving Cells Scoring Blue (%)</b>
1	pSV- $\beta$ -gal	-276-mer - RecA	168	21	12.5
2	pMC1lacpa	- 276-mer - RecA	98	9	9.2
3	pMC1lacXpa	- 276-mer - RecA	173	0	0
4	pMC1lacXpa	+ 276-mer - RecA	103	0	0
5	pMC1lacXpa	+ 276-mer + RecA	168	6	3.6

Figure 6

M 1 2 3



687 bp

Figure 7A

Control ( $\Sigma$ CF)  
T $\Sigma$ CF Microinjected  
T $\Sigma$ CF P-L

Figure 7B



687 bp

1 2 3 4 5 6

300 ➤

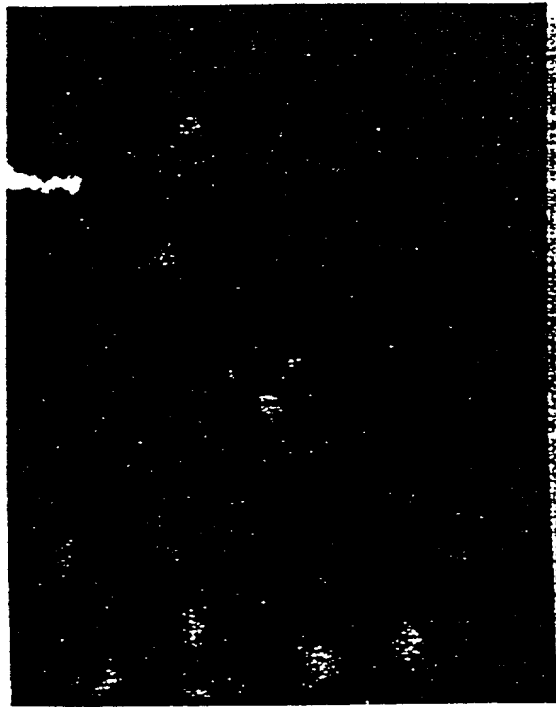


Figure  
8A

1 2 3 4 5



Figure  
8B



1 2 3

299 ➤

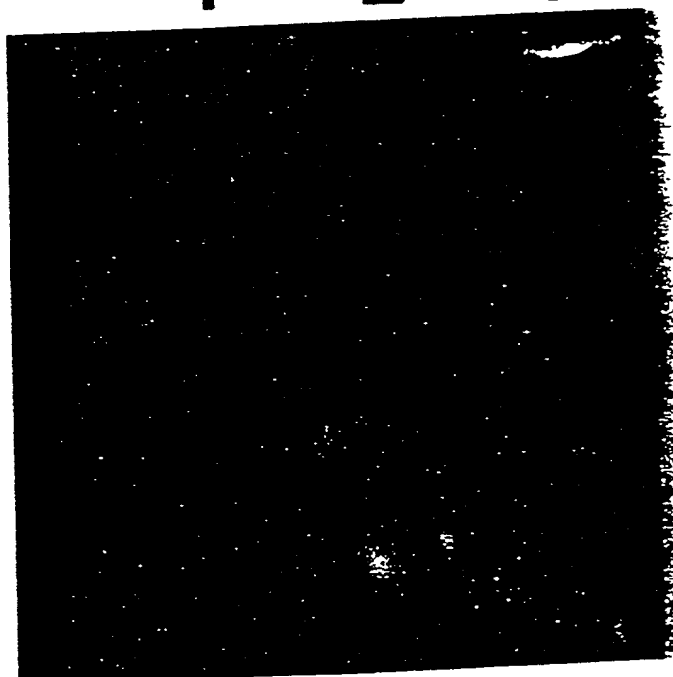


Figure  
9

# Scheme for recombination assay

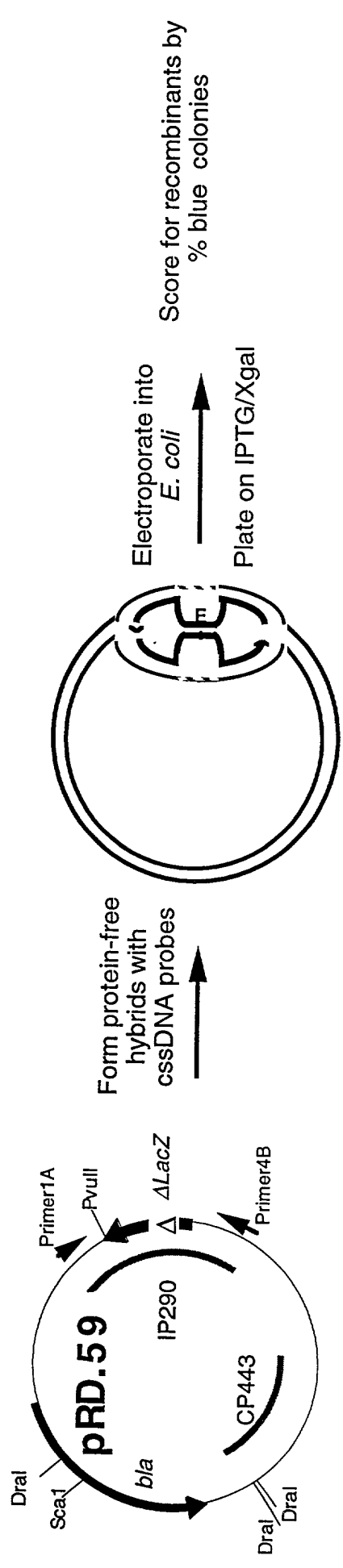


Figure 10

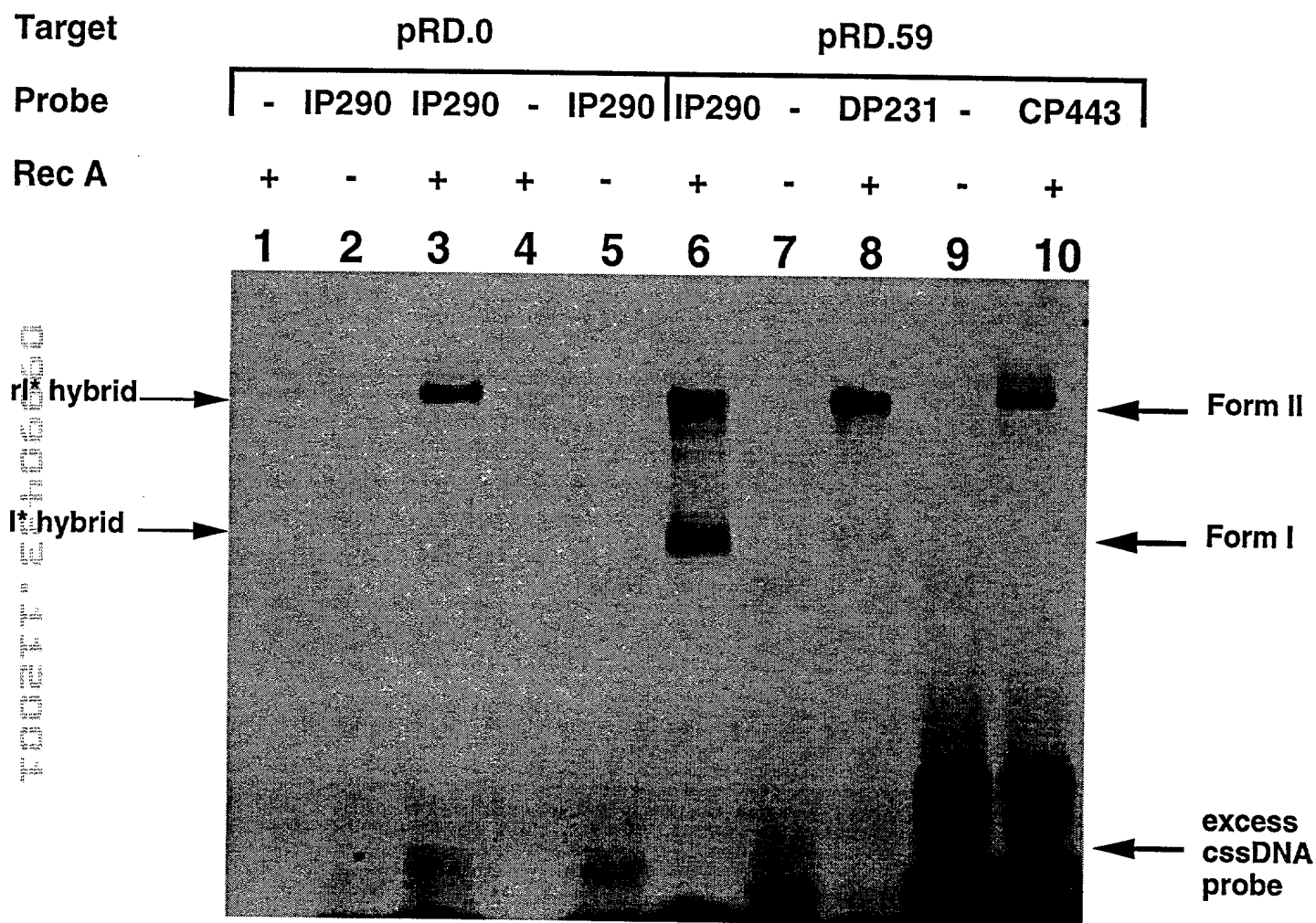


FIGURE 11

# cssDNA Probe:Target Hybrids Enhance Homologous Recombination

Target Probe	RecA coating	Host	%Recombinant / total colonies
pRD.59 -	+	RecA+	0
pRD.59 -	+	RecA -	0
pRD.59 IP290	-	RecA+	0
IP290	-	RecA -	0
pRD.59 IP290	+	RecA+	3
IP290	+	RecA -	0
pRD.59 DP290	-	RecA+	0
DP290	-	RecA -	0
pRD.59 DP290	+	RecA+	0
DP290	+	RecA -	0
pRD.59 CP443	-	RecA+	0
CP443	-	RecA -	0
pRD.59 CP443	+	RecA+	0
CP443	+	RecA -	0

Figure 12

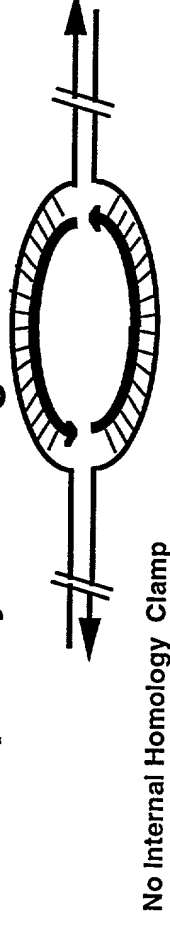
## Four-strand hybrids

All DNA probe and target strands are paired

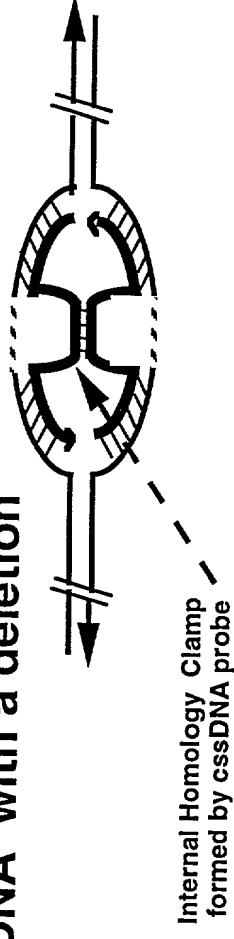
## Three-strand hybrids

Certain regions of DNA probe or target strands are unpaired

### A. Target DNA completely homologous



### B. Target DNA with a deletion



### C. Target DNA with an insertion

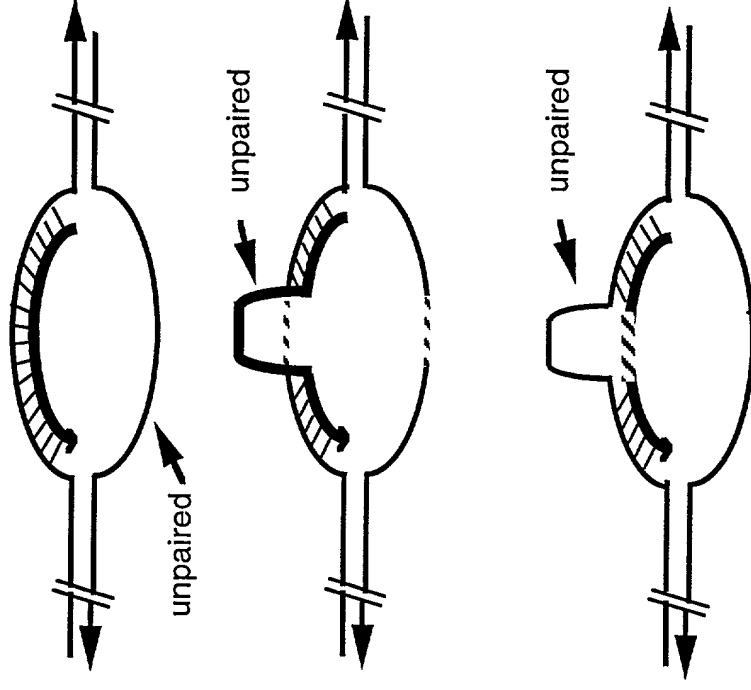
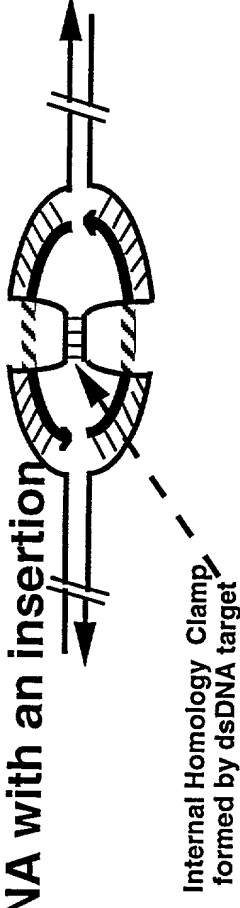


Figure 13

Figure 14A

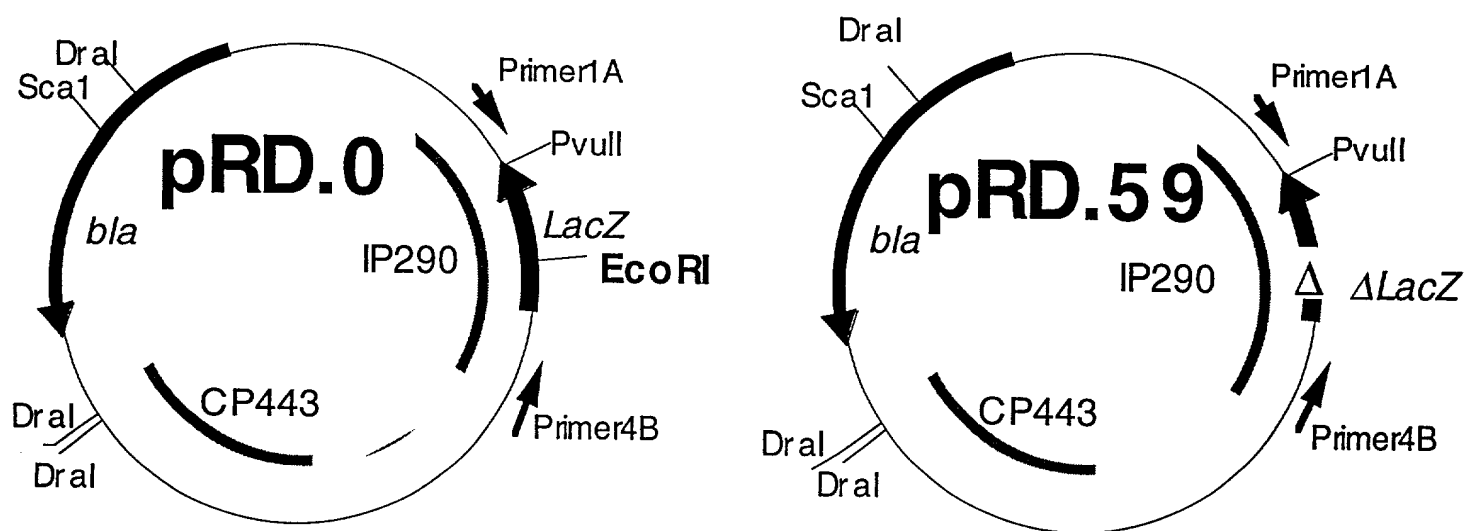
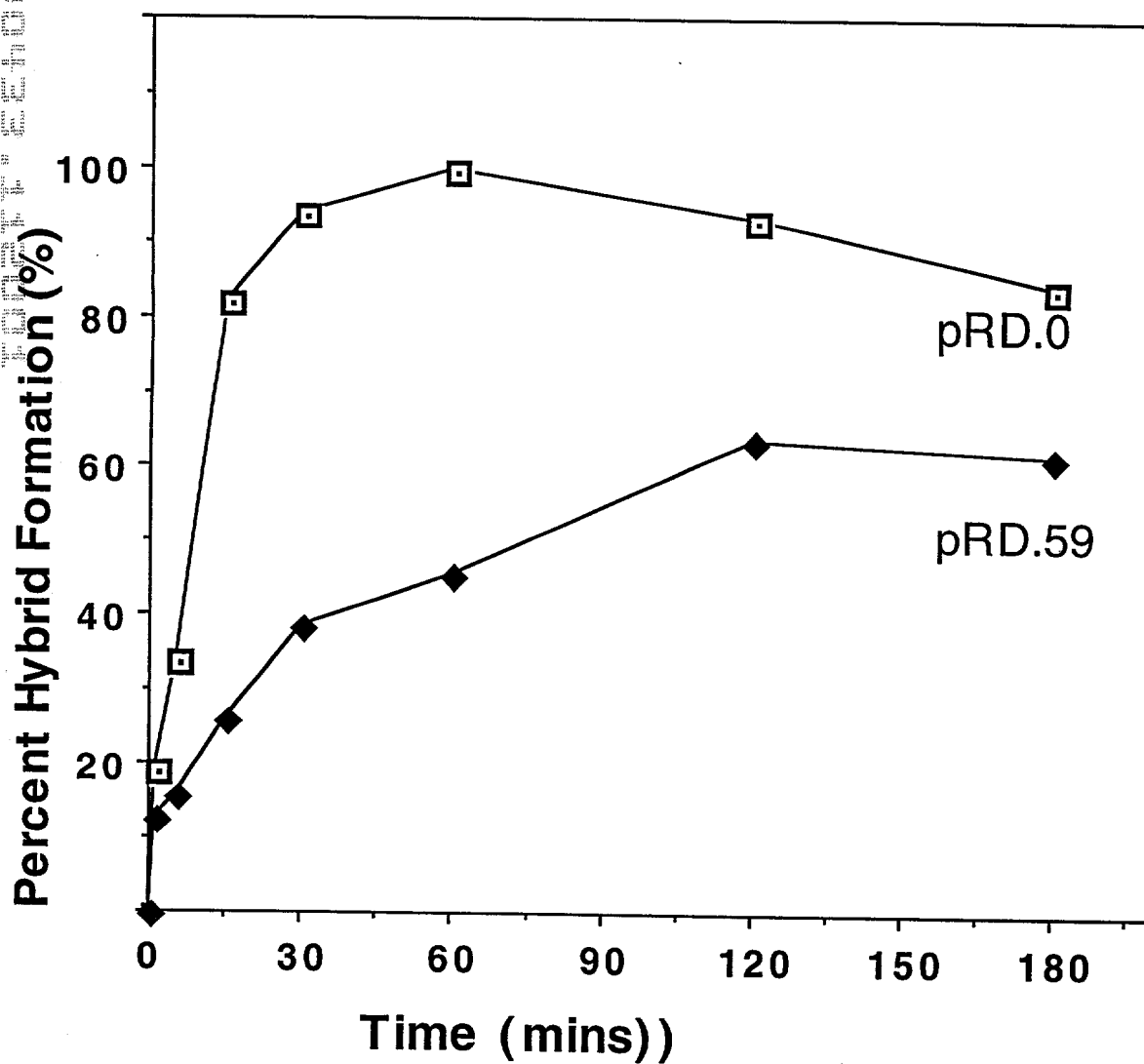


Figure 14B



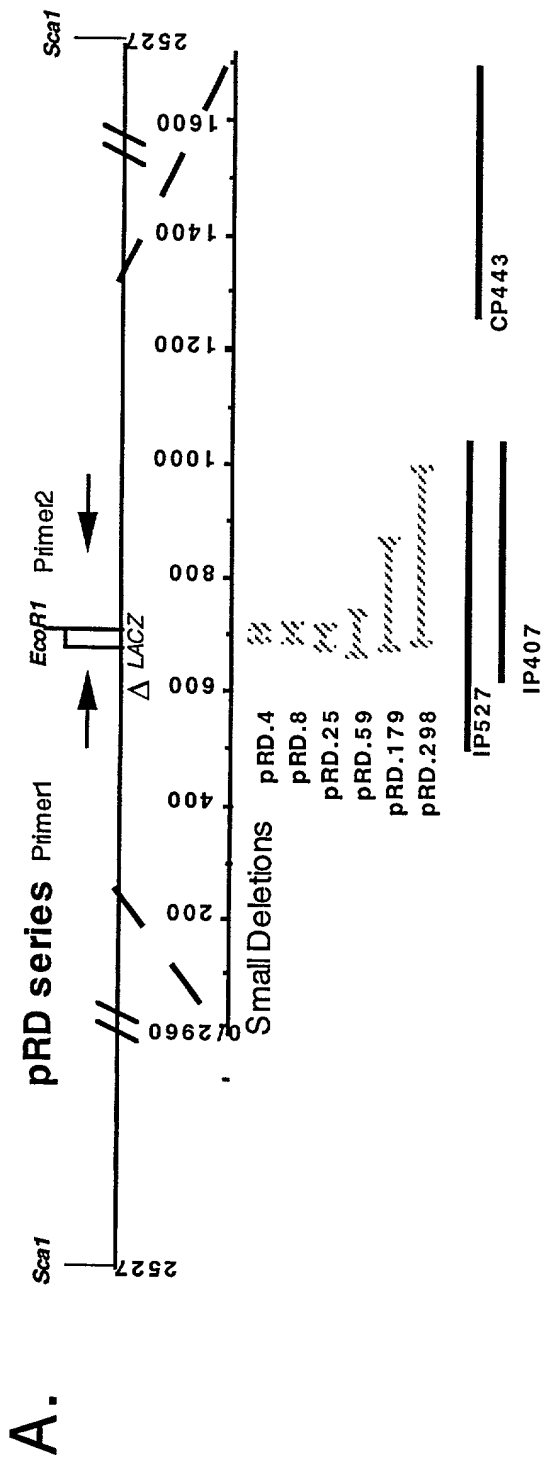


Figure 15A

Figure 15B

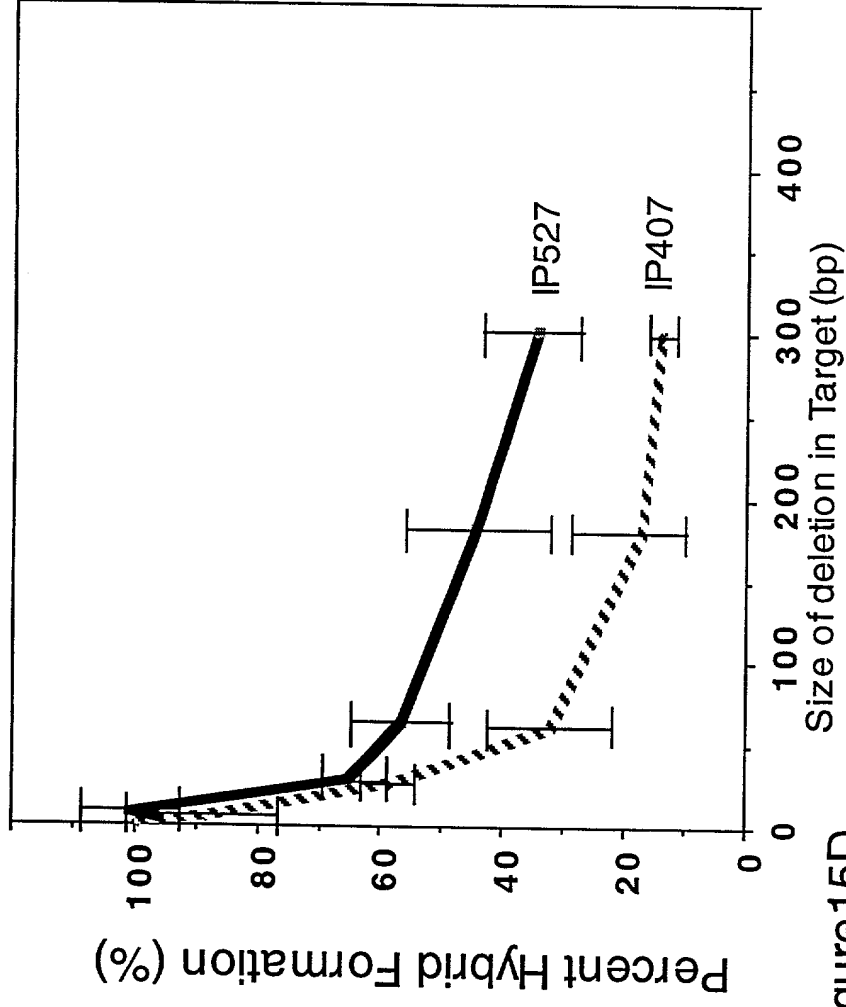


Figure 15D

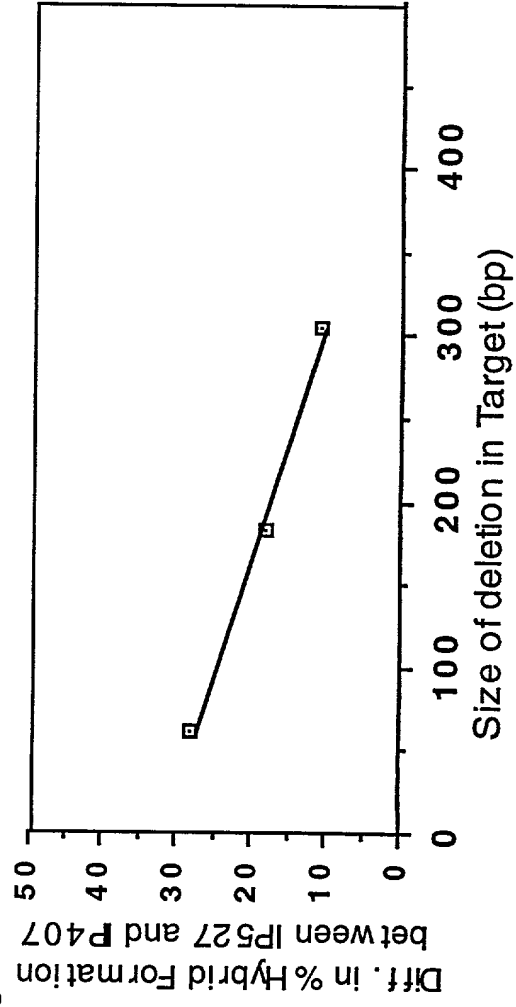
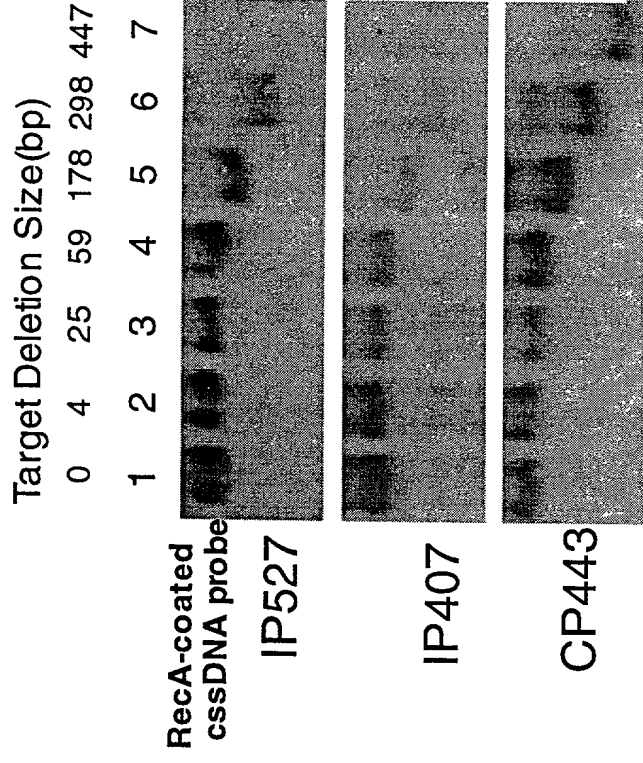


Figure 15C





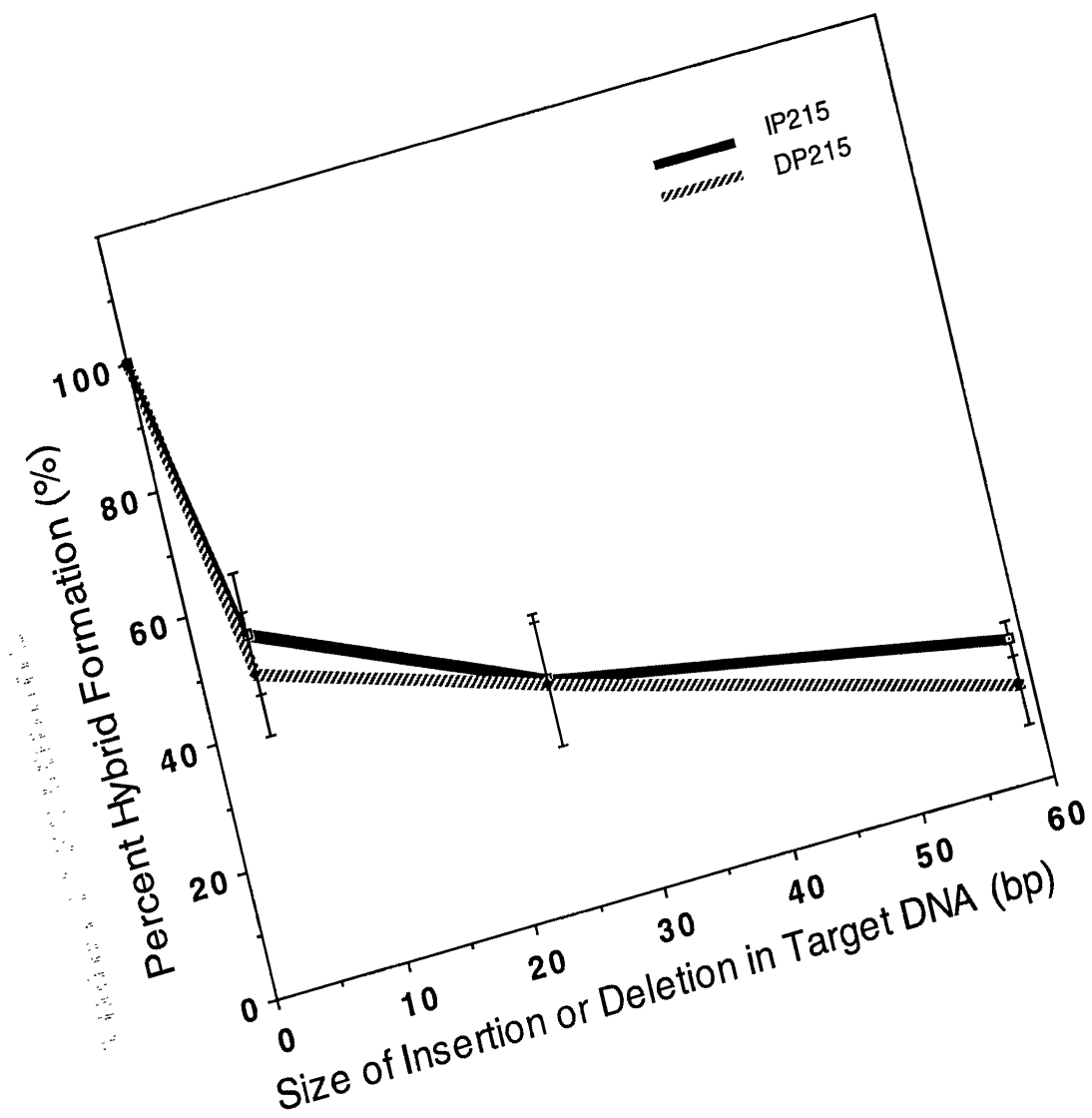


Figure 16

Probe

P1246

CP443

Target

pRD.0

pRD.448

pRD.453

pRD.559

pRD.967

pRD.0

pRD.448

pRD.453

pRD.559

pRD.967

FormIII Marker

pRD.0

pRD.448/453

pRD.559

pRD.967

Excess  
probe

Excess  
probe

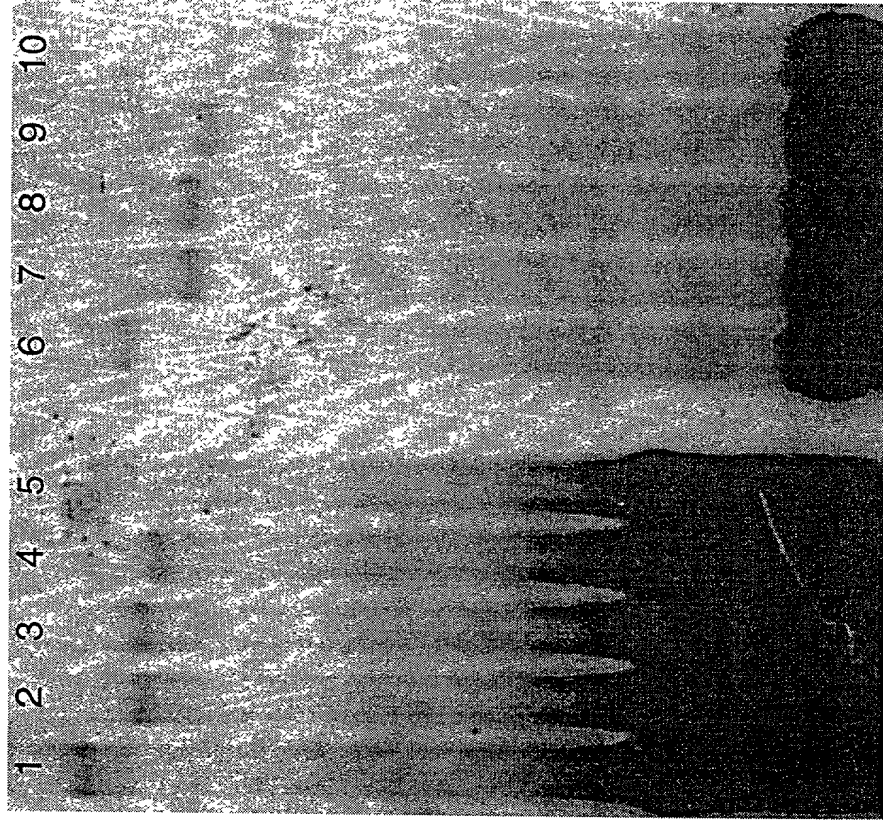


Figure 17A

Figure 17B

TARGET DNA	AMT. HOMOL. (bp)	RELATIVE HYBRIDIZATION
pRD.0	1246	1.0
pRD.448	798	0.8
pRD.453	793	0.8
pRD.559	687	0.8
pRD.967	279	0.3

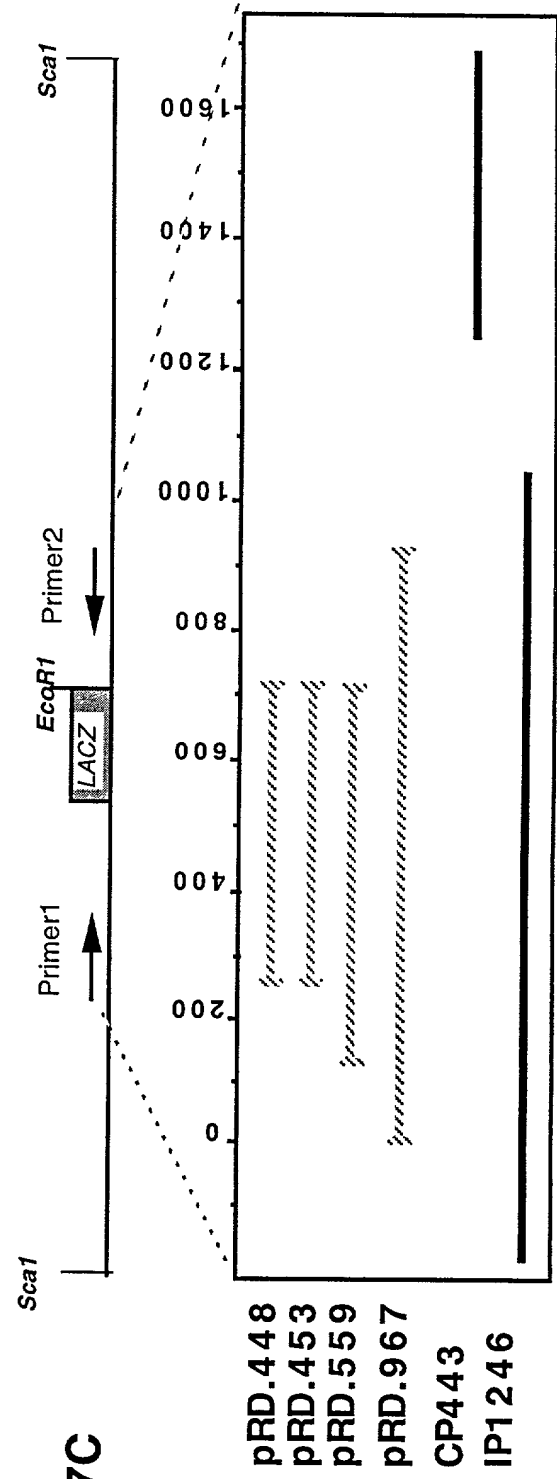


Figure 17C

Figure 18

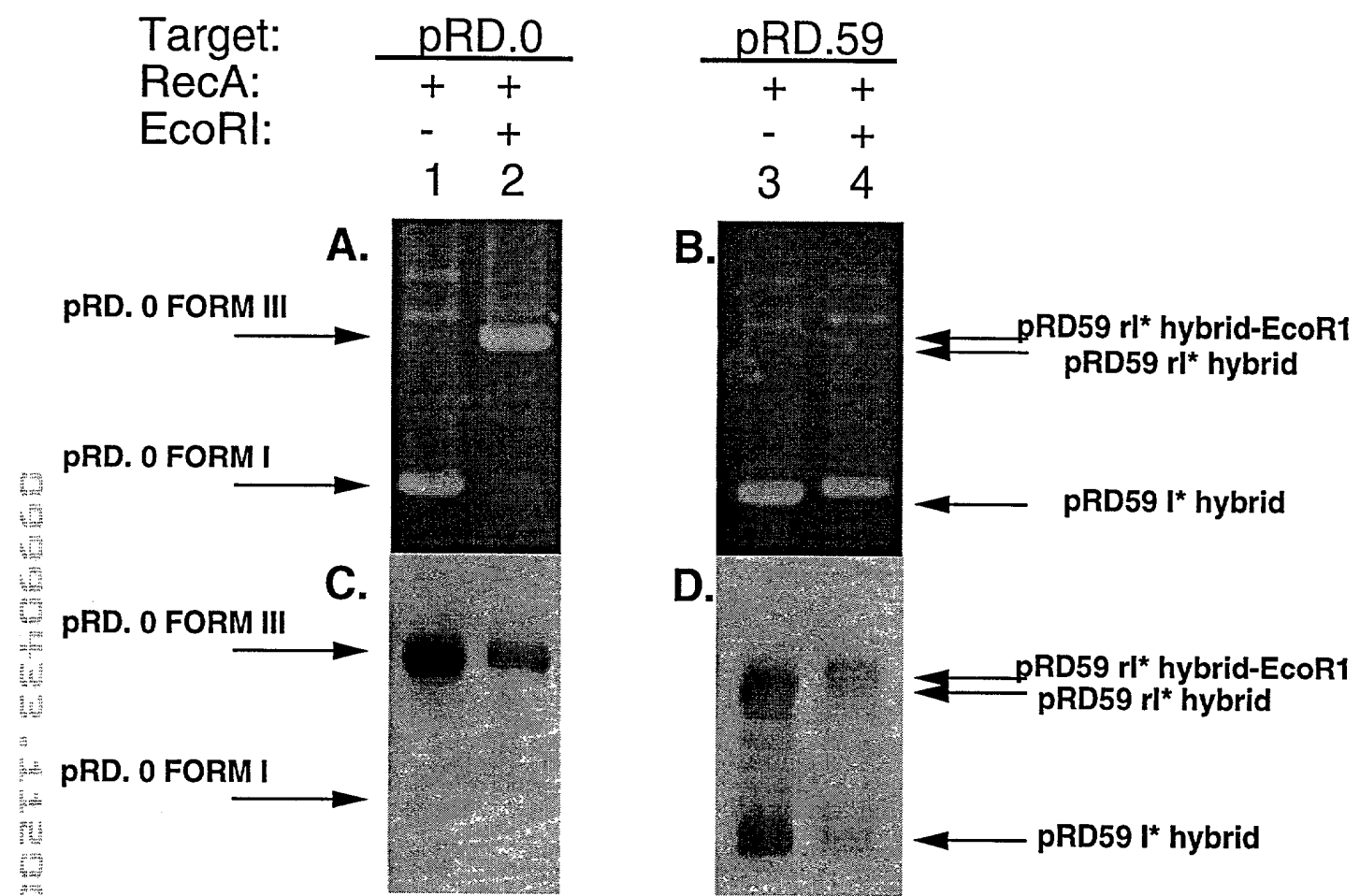
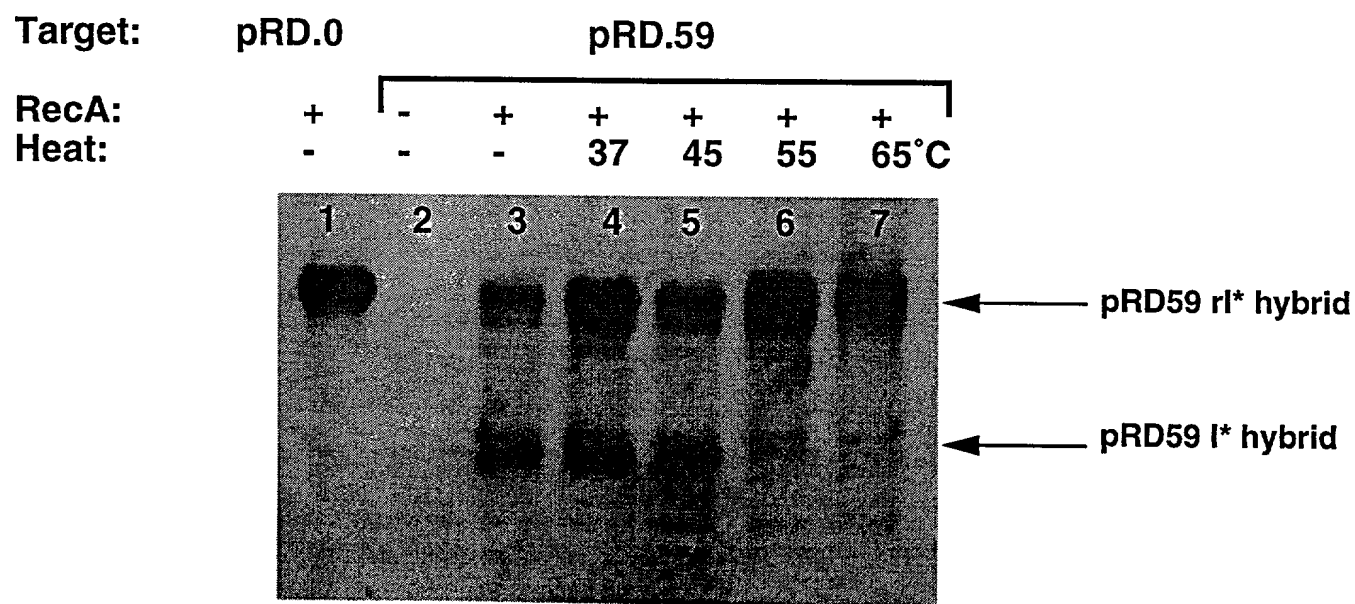


Figure 19



# Mouse Ornithine Transcarbamylase Gene

Figure 20A

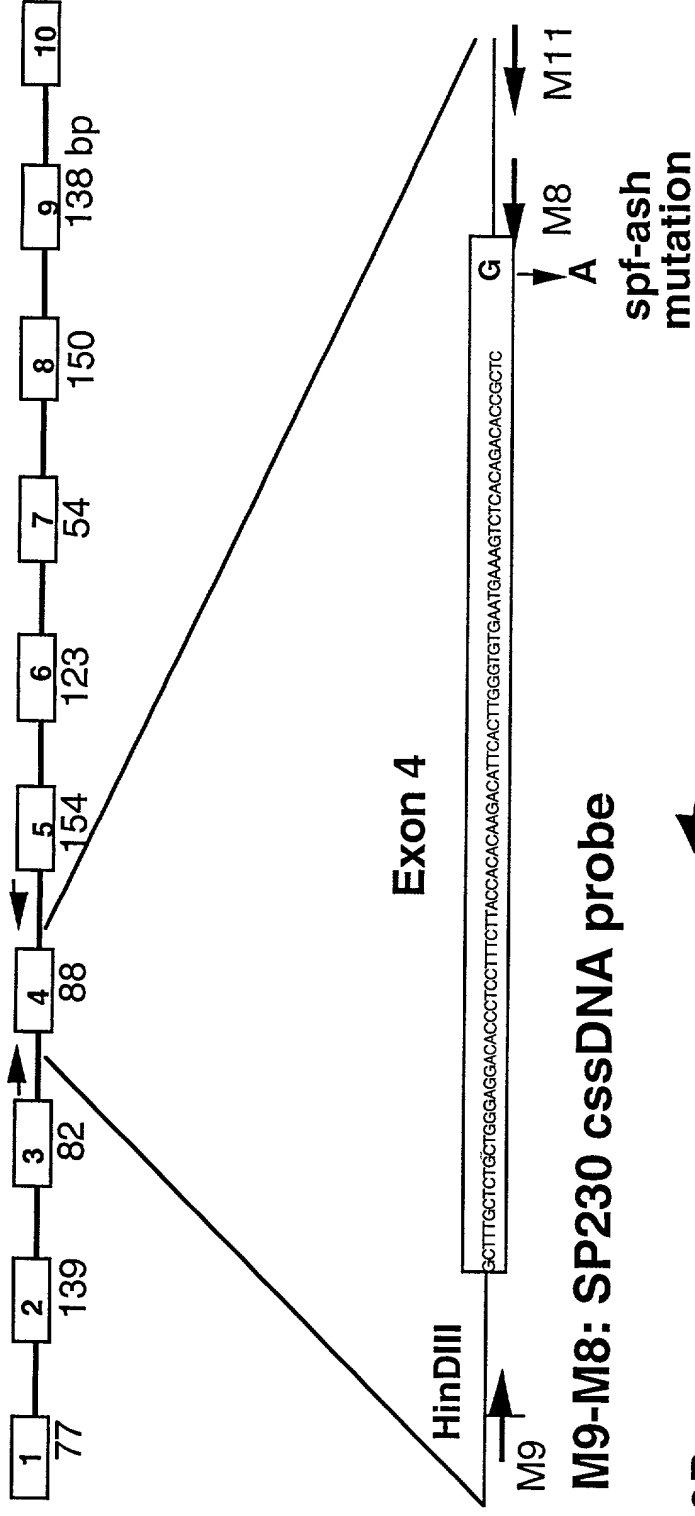
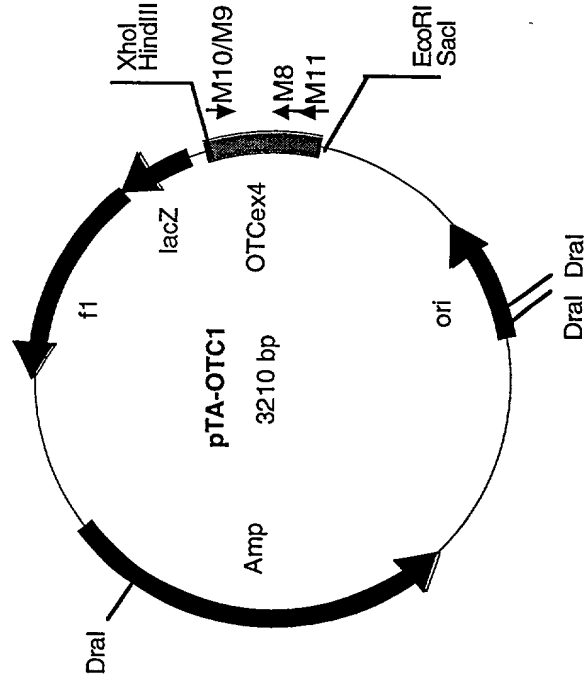
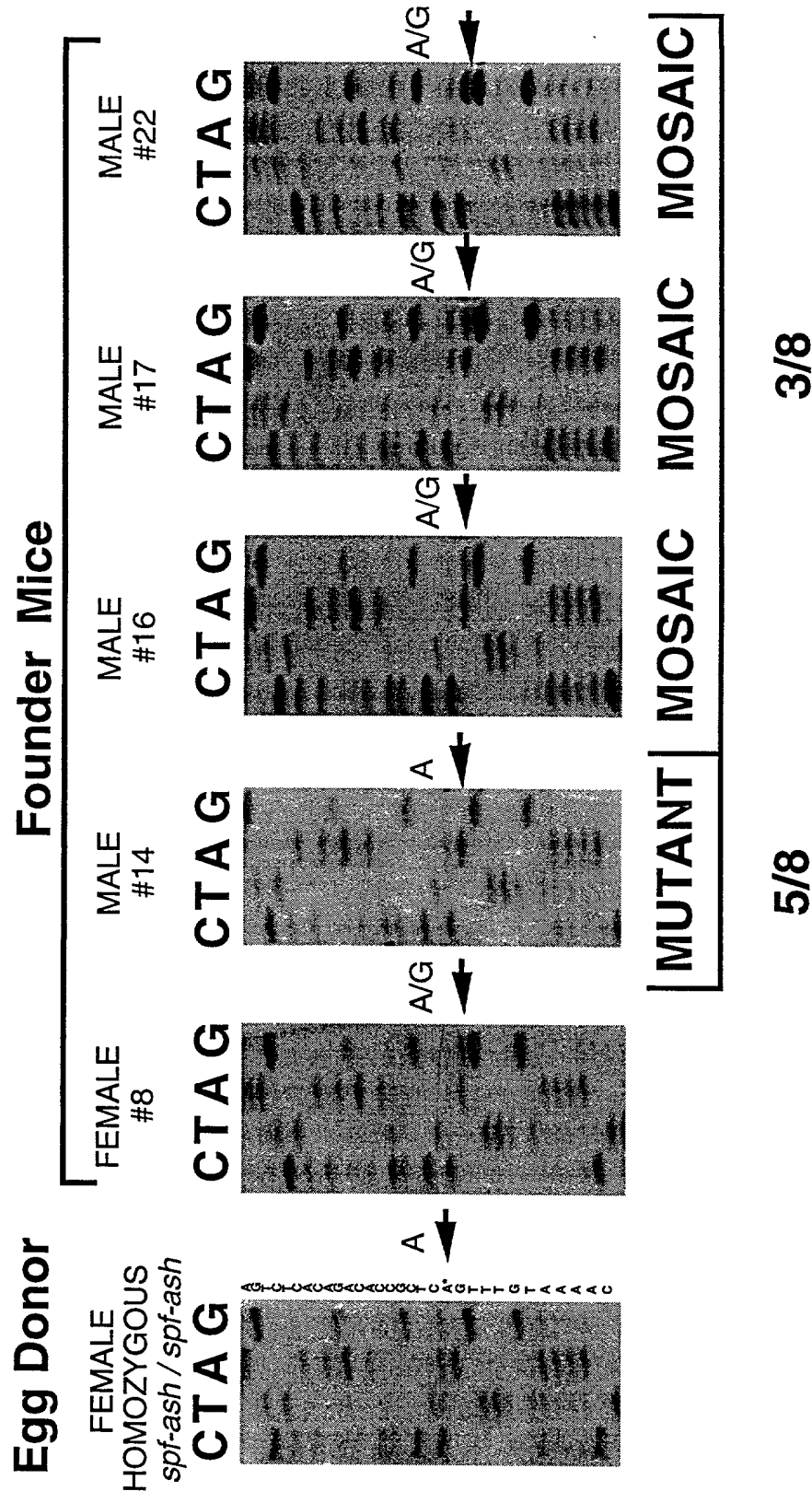


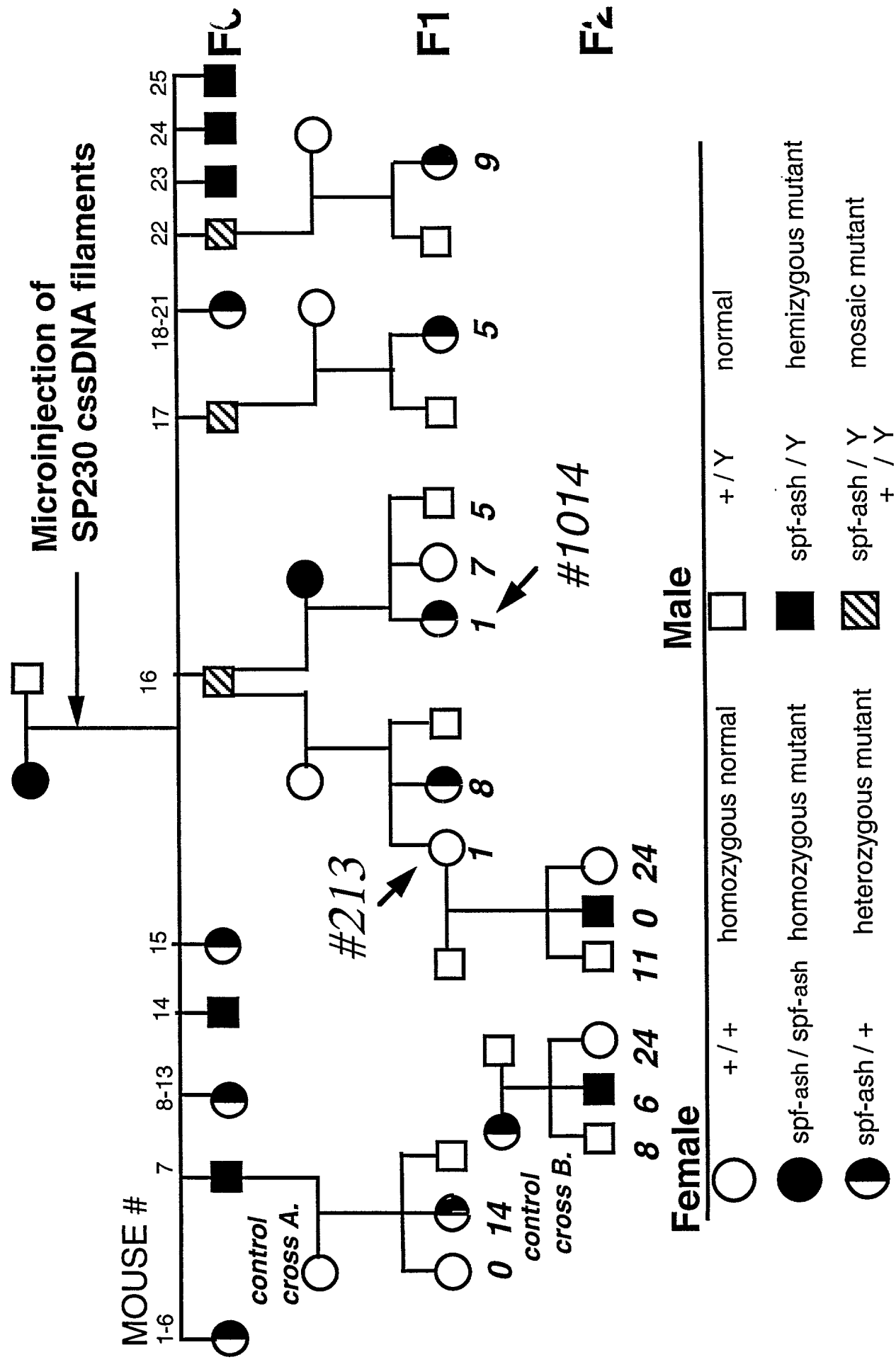
Figure 20B



## OTC exon4 DNA sequence determination



**Figure 22 Germline Transmission of EHR Corrected OTC<sup>+</sup> Allele**



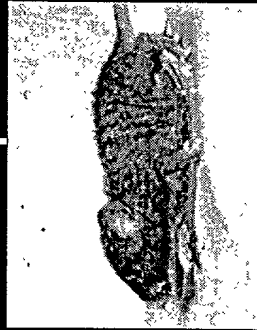
**Figure 23**

**Germline Transmission of Corrected Allele of F0 Male #16**

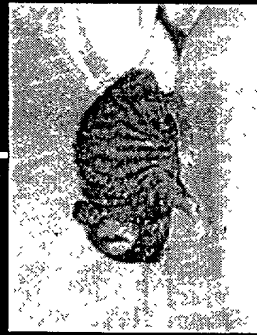


**Homozygous  
spf-ash/spf-ash  
female parent**

**Mutant F1  
Male Pup1**



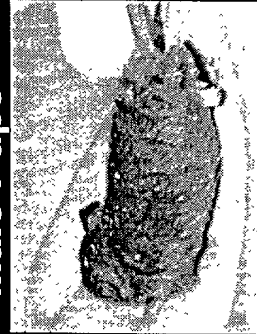
**Mutant F1  
Male Pup2**



**Mutant F1  
Female Pup3**



**Mutant F1  
Male Pup5**



**Mutant F1  
Female Pup7**



**Normal \*  
F1 Female  
Pup1014**

